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(54) Mattress

(57) A mattress for small children has a removable foam insert 20 which fits in an aperture 15 cut in the head portion of a foam mattress body. The insert has a plurality of perforations 27 extending from its top face to its bottom face which reduce the risk of suffocation, the perforations being grouped towards the head of the mattress for optimum positioning beneath the child's head. To ensure that a replacement insert, when the former insert is soiled and requires washing, is fitted in the correct orientation, each insert has a key portion 28 projecting from one edge for interlocking with a correspondingly shaped recess 30 in a side wall of the aperture.

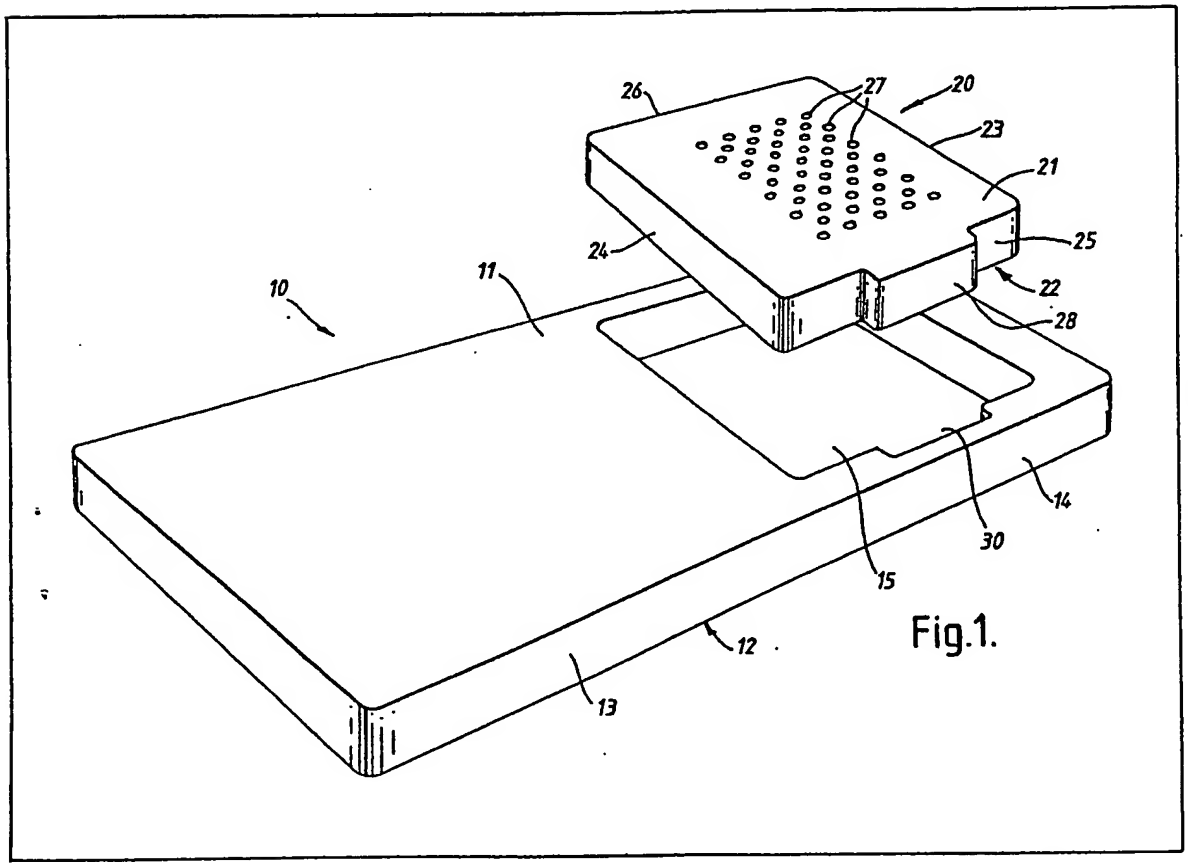

Fig.1.

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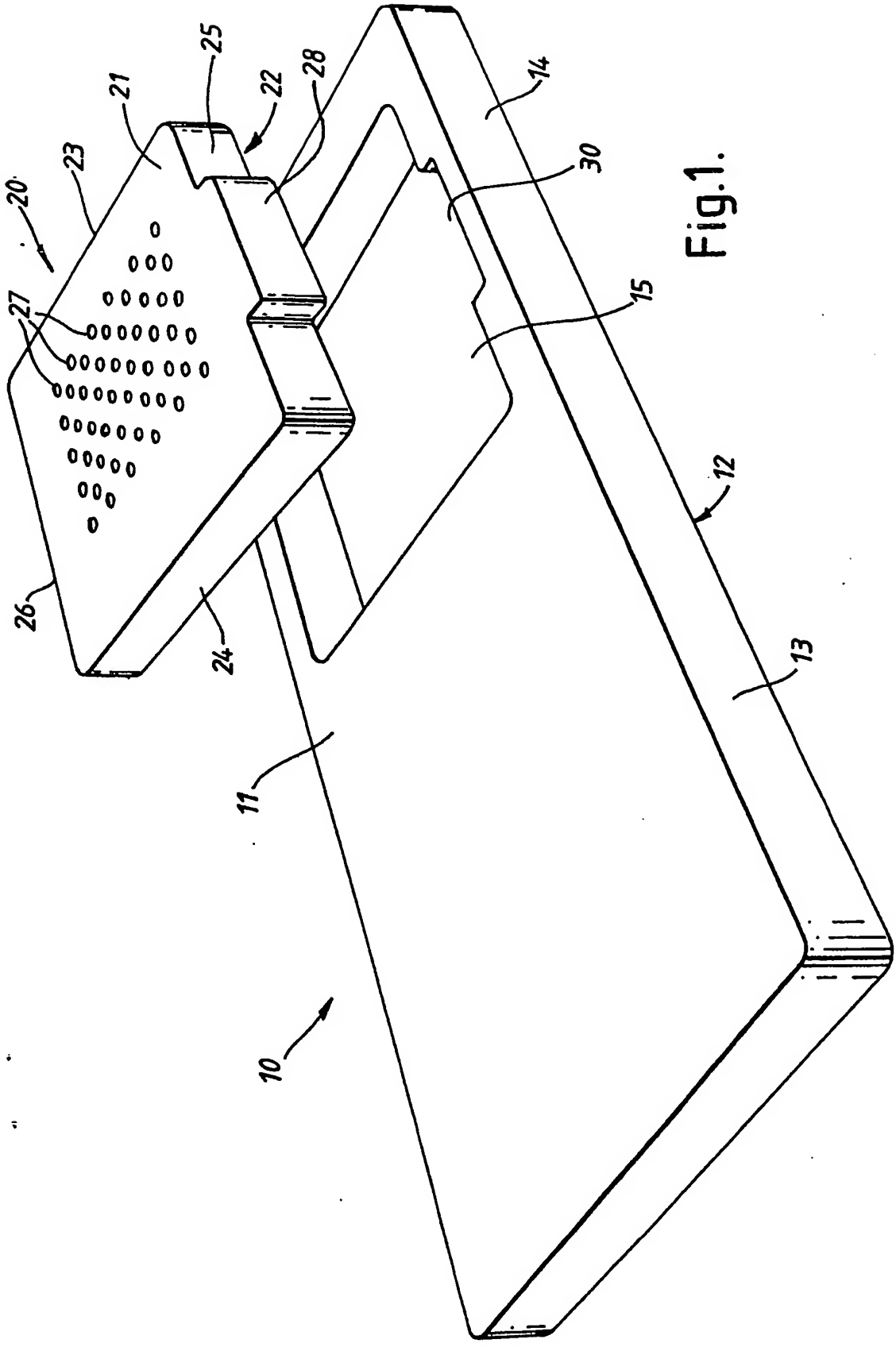

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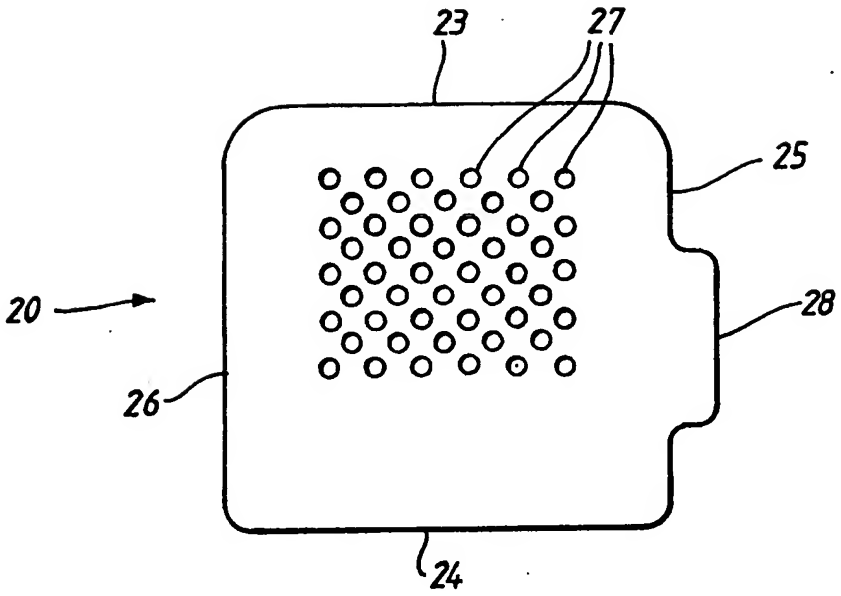

Fig.2.

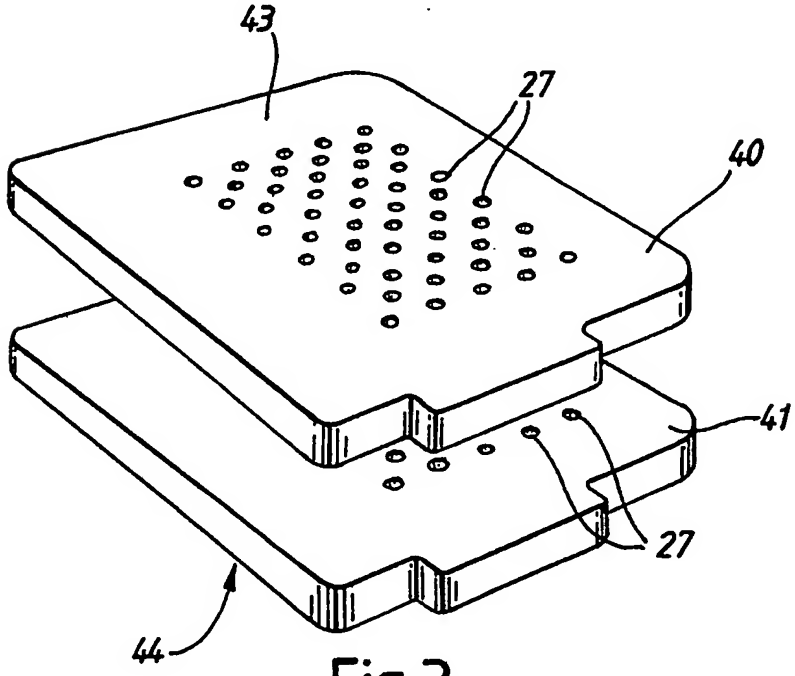

Fig.3.

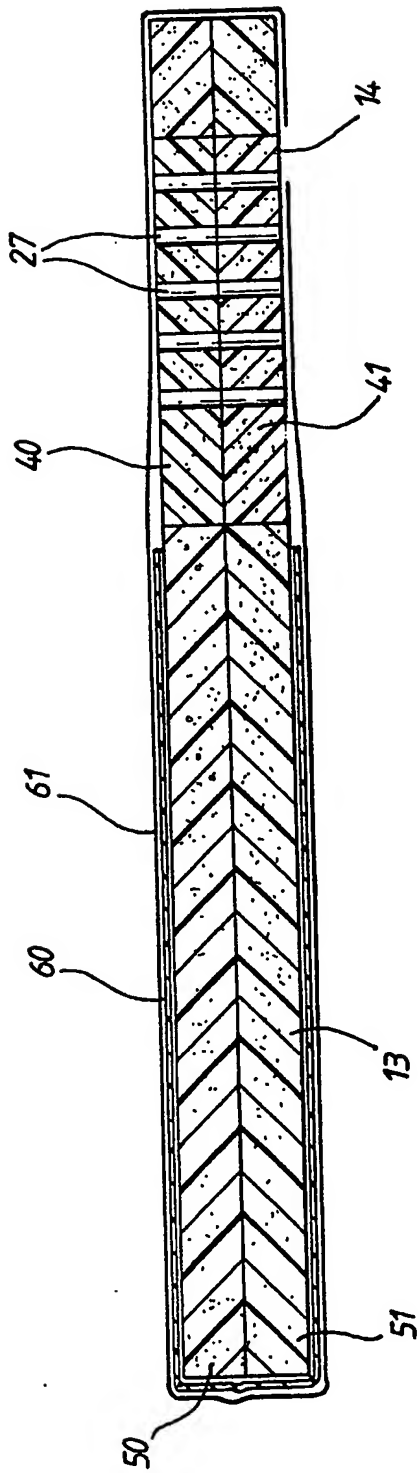

Fig.4.

SPECIFICATION
Mattress

Background of the Invention

This invention relates to a mattress, and primarily to a cot mattress having perforations to reduce the danger of suffocation.

Such a mattress is known and has been manufactured for many years. The known mattress is rectangular in shape, made of foam material and has perforations extending through the head portion from the top surface to the bottom surface to provide for passage of air should the baby bury its face in the mattress. A ventilated cover is provided for the head portion and a waterproof cover fits over the rest of the mattress.

One difficulty with the known mattress is that it is not easy to wash should for example the baby vomit while lying on the mattress. In particular the difficulty of cleaning inside the perforations and subsequently drying the mattress is considerable and especially inconvenient if it is night time.

Summary of the Invention

In accordance with this invention the mattress is provided with a removable insert in the head portion. The insert is preferably of the same thickness as the body of the mattress and fits in an aperture in the head portion so that its top surface lies flush with the top surface of the mattress. The size and shape of the insert corresponds generally to the area likely to be affected should the baby vomit, and the perforations referred to above are produced in the insert itself. The perforations may be positioned asymmetrically in the insert, in which case it is preferable to provide a key portion shaped to fit in a recess on one side of the aperture so that the insert is always replaced in the correct orientation, with the perforations correctly positioned.

The mattress in accordance with the invention has the advantage that a soiled insert can be quickly and easily removed, and can be replaced by a spare dry insert. Compared to the mattress as a whole the insert is relatively small in size so that it can more easily be washed and spin-dried in a domestic washing machine.

The ability to replace the insert quickly and easily has the additional advantage of largely avoiding the temptation merely to wipe the top surface of the mattress, possibly leaving the perforations soiled, or worse, blocked.

In the preferred embodiment of the invention, movement of the insert at its boundary relative to the surrounding main body of the mattress when the baby rolls towards the side of the mattress tends to prevent further rolling movement, so keeping the baby's head within the protected area.

A further feature of the preferred embodiment is that the insert is directed into two separate layers having the same outline. This tends to reduce the possibility of shape distortion during manufacture, and can assist in preventing the rolling movement referred to above.

Description of Drawings

The invention is illustrated by way of example in the accompanying drawings in which:—

Figure 1 is an exploded perspective view of a mattress in accordance with the invention;

Figure 2 is a plan view of a removable insert;

Figure 3 is a perspective view of an alternative, two-layer insert; and

Figure 4 is a longitudinal section of a second mattress in accordance with the invention.

Detailed Description of the Preferred Embodiment

Referring to Figure 1, a first embodiment of the invention has a single layer mattress body 10 cut from a porous, resilient fire-retardant foam plastics material. The body 10 has a top surface 11 and a bottom surface 12 which, in this embodiment, are interchangeable in that the surface 12 could be used as a lying surface. It has a main portion 13 for supporting a child's body and a head portion 14 with an aperture 15 opening out on the top surface 11 and extending to the bottom surface 12 with a constant rectangular outline.

In use of the mattress the aperture 15 accommodates a generally rectangular removable and replaceable foam insert 20 having a top face 21 normally flush with the top surface 11, a bottom face 22 normally flush with the bottom surface 12, an upper edge 23, a lower edge 24, and shorter side edges 25 and 26. The aperture 15 is located in the head portion of the mattress body 10 so that the child's head is positioned over the insert 20, perforations 27 being provided in the insert extending from the top face 21 to the bottom face 22 to allow passage of air through the insert should the child bury its face in the mattress, so reducing the danger of suffocation.

For optimum positioning beneath the childs head, the perforations 27 are grouped together within a perforated area which asymmetrically located in the insert and is nearer the top edge 23 of the insert than the lower edge 24. In order that the perforations 27 are correctly positioned when the insert 20 is replaced, means are provided for ensuring that the insert 20 can only be fitted into the aperture 15 in one orientation, such means in this embodiment being a key portion 28 projecting from the side edge 25 of the insert 20 for co-operation with a correspondingly shaped recess 30 cut in the corresponding side wall of the aperture 15. The key portion 28 is asymmetrically located in the side edge 25.

If, in use, the insert 20 becomes soiled, it can be quickly removed and a clean replacement insert fitted so that the child has a clean, dry mattress with the minimum delay, the original insert being washed later. The size of the insert is such that washing is comparatively easier than washing the complete mattress as has been necessary with prior art cot mattresses.

The insert 20 is shown in plan in Figure 2.

Referring to Figure 3, an alternative insert comprises two identical insert parts 40 and 41, each having an outline corresponding to the shape

of the aperture 15, and having correspondingly cut perforations 27. The insert parts 40 and 41 are half the thickness of the mattress body 10 so that when fitted together in abutting relationship in the aperture 15, the top face 43 of the upper part 40 lies flush with the top surface 11 of the mattress body 10, and the bottom face 44 of the bottom part 41 is flush with the bottom surface 12.

The mattress body 10 may also be formed from two half-thickness parts 50 and 51, as shown in Figure 4.

It is important that any covers used for the head portion 14 of the mattress should be air-permeable to allow air passage to the perforations 27. In the embodiment shown in Figure 4, the main portion 13 of the mattress body is covered by a waterproof fire-retardant PVC sleeve 60, and a full length air-permeable cellular polyester sheet 61 is fitted over the sleeve 60 and the head portion 14. Preferably, this sheet 61 completely encloses the mattress body 10 and is shaped correspondingly to restrict movement relative to the mattress body and to provide a crease-free surface for the child to lie on.

CLAIMS

1. A mattress comprising:

a mattress body with a main portion and a head portion and a top surface and a bottom surface; and

a removable insert;

the mattress body having an aperture in the head portion opening out on the top surface for receiving the insert, the aperture being shaped to correspond generally with the shape of the insert.

2. A mattress according to claim 1, wherein the aperture has a top face and a bottom face and extends from the top surface to the bottom surface of the mattress body, the top face of the insert lying flush with the top surface of the mattress body when received in the aperture.

3. A mattress according to claim 1, including ventilation means providing an air passage extending from a top face of the insert, through the body of the insert, to an exterior surface of the mattress.

4. A mattress according to claim 2, wherein the insert has a plurality of perforations extending from the top face to the bottom face, and wherein the mattress body and the insert are of foam material.

5. A mattress according to claim 4, wherein the perforations are grouped asymmetrically relative to the outline of the insert, and wherein the insert and the aperture are so correspondingly shaped that the insert can only be fitted in a required orientation.

6. A mattress according to claim 5, wherein the insert is generally rectangular, and has a key portion projecting from one side, the aperture having a correspondingly shaped recess for receiving the key portion.

7. A mattress according to claim 6, wherein the key portion is asymmetrically located on one of the shorter sides of the rectangular insert.

8. A mattress according to claim 6 wherein the perforations are distributed within a perforated area of the top face of the insert, the said area being generally nearer one of the longer sides of the rectangular insert than the other longer side thereof.

9. A mattress according to claim 2, wherein the insert comprises at least two separable insert parts each corresponding in shape to the shape of the aperture, the total of the thicknesses of the insert parts being approximately equal to the thickness of the mattress body.

10. A mattress according to claim 1, including a waterproof cover fitted over the main portion of the mattress body, and an air- and liquid-permeable cover enclosing the mattress body and insert.

11. A mattress insert shaped for fitting in an aperture in the head portion of a foam mattress body, wherein the insert comprises a generally parallel sided section of foam material having:

a top face and a bottom face, an upper edge, a lower edge and two side edges,

a plurality of perforations extending from the top face to the bottom face, and

a key feature located in one of said edges for co-operating with a corresponding key feature in a corresponding edge of said aperture.

12. An insert according to claim 11, wherein the perforations are distributed within a perforation region positioned nearer said upper edge than said lower edge, and wherein the insert key feature is asymmetrically located on said one edge so that when the insert is fitted in the aperture with the insert key feature co-operating with a correspondingly asymmetrically located key feature in the aperture, the upper edge of the section is nearer than the lower edge to the head of the mattress body.

13. A mattress constructed and arranged substantially as herein described and shown in the drawings.

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